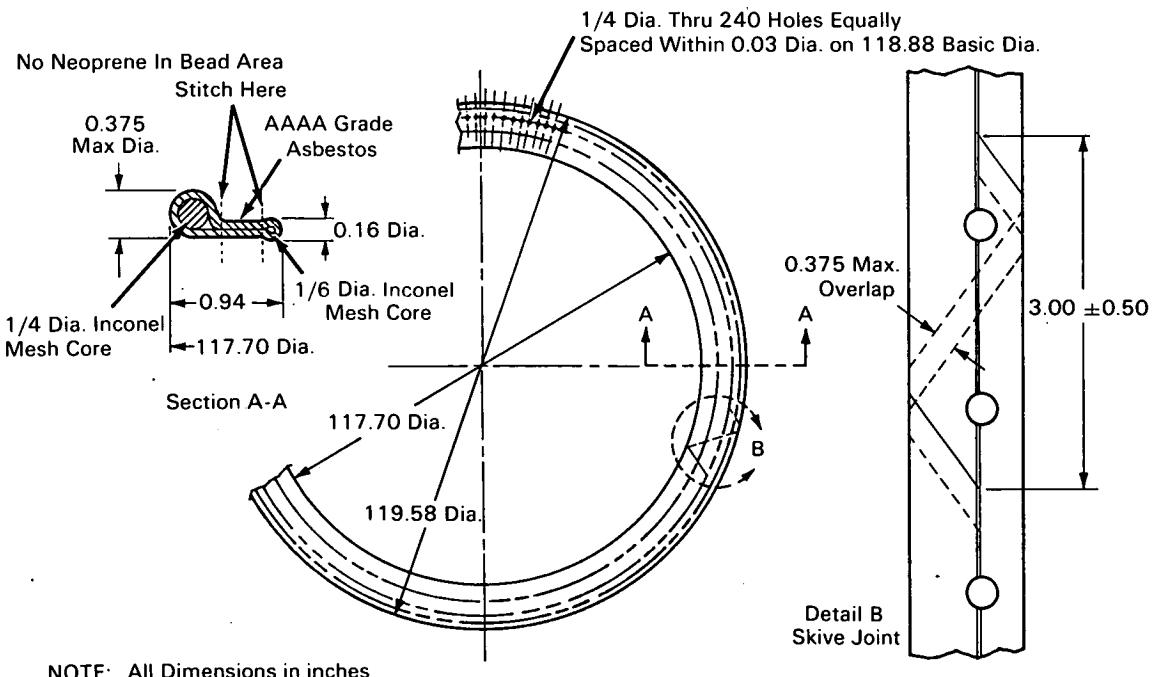


NASA TECH BRIEF



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Asbestos and Inconel Combined To Form Hot-Gas Seal



The problem:

Warpage tendencies in large flange joints exposed to high temperatures, such as those present in large space vehicle engine exhausts, pose serious seal problems. Prior seals employing two wraps of rope-type asbestos in a single groove have not performed successfully in the presence of flange warpage.

The solution:

Two inconel wire mesh cores held in place by an asbestos cloth cover that acts as a spacer to form a positive seal.

How it's done:

The item consists of a primary and secondary seal covered by asbestos cloth that also separates them to

conform to flange face width. The part is fabricated by folding asbestos cloth over the mesh cores, forming it into a ring, sewing the cloth in place, and punching holes in it for the attaching fasteners. When in place, both cores are compressed under flange joint clamping loads, but only the primary seal (larger core) requires an O-ring groove.

Note:

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B68-10162

(continued overleaf)

Patent status:

No patent action is contemplated by NASA.

Source: C. W. Wooster, Jr.
of North American Aviation, Inc.
under contract to
Marshall Space Flight Center
(MFS-14004)